PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Fill Materials

The embankments shall be constructed of suitable earth materials obtained from the borrow site(s), suitable earthen materials obtained from excavations as prescribed in Section 02222 SITE STRIPPING, EXCAVATION, AND STABILITY BERM REMOVAL, Section 02223 BORROW SITE EXCAVATION, and to the extent shown on the Plans. Materials shall be blended, as necessary, to obtain a blended material suitable for construction.

If earthen materials are encountered that do not meet the gradation requirement, these excavated materials shall not be classified as unsuitable or wasted, but shall be uniformly blended with other suitable borrow in the borrow area until the blended material is suitable to meet the specifications in Paragraph 2.2 TYPES OF FILL MATERIALS. Blending and moisture conditioning shall be in accordance with Section 02222 SITE STRIPPING, EXCAVATION, AND STABILITY BERM REMOVAL and 02223 BORROW SITE EXCAVATION.

If a disagreement between the Contractor and the Agency occurs over the suitability of blended materials the Contractor shall perform laboratory testing prior to placement in the fill area to demonstrate compliance with the Specifications at no additional costs to the Agency. The testing by the Contractor shall comply with Paragraph 3.10 FIELD QUALITY CONTROL. The failure of the Contractor to perform the testing shall not relieve the Contractor from the obligation to provide suitable materials.

The subgrade for roadways, as shown on Plans, shall meet the requirements under Paragraph 2.2.1 SOIL TYPE 1 FILL with a minimum Resistance Value (R) equal to or greater than 50 per CALTRANS requirements.

2.2 TYPES OF FILL MATERIALS

2.2.1 Soil Type 1 Fill (Levee Embankment Fill Material)

Soil Type 1 fill material shall be obtained from the borrow sites provided by the Agency or other required project excavations and is suitable as embankment fill without limitation. The Soil Type 1 material shall consist of low to high plasticity soils classified in accordance with ASTM D 2487 as silt (ML) or clay (CL). Individual test results shall have a minimum of 20 percent passing the No. 200 standard sieve on each individual test. Maximum particle size shall be 2 inches. Soil Type 1 shall have a liquid limit of 50 or less and a plasticity index greater than or equal to 8 and less than or equal to 40.

2.2.2 Soil Type 1A

Soil Type 1A fill material shall be obtained from the borrow sites provided by the Agency or other required project excavations and is suitable as embankment fill without limitation. The Soil Type 1A material shall consist of low to high plasticity soils classified in accordance with ASTM D 2487 as silt (ML) or clay (CL). Individual test results shall have a less than or equal to 12 percent passing the No. 200 standard sieve on each individual test. Maximum particle size shall be 2 inches. Soil Type 1A shall have a liquid limit of 50 or less and a plasticity index less than or equal to 40.

2.2.3 Soil Type 2

Soil Type 2 fill material shall be obtained from the borrow sites provided by the Agency or other required project excavations and is suitable as embankment fill without limitation. The Soil Type 2 material shall consist of low to high plasticity soils classified in accordance with ASTM D 2487 as silt (ML) or clay (CL). Individual test results shall have a less than or equal to 20 percent passing the No. 200 standard sieve on each individual test. Maximum particle size shall be 2 inches. Soil Type 2 shall have a liquid limit of 65 or less and a plasticity index between 8 and 40.

2.2.4 Soil Type 2A

Soil Type 2A fill material shall be obtained from the borrow sites provided by the Agency or other required project excavations and is suitable as embankment fill without limitation. The Soil Type 1 material shall consist of low to high plasticity soils classified in accordance with ASTM D 2487 as silt (ML) or clay (CL). Individual test results shall have a less than or equal to 50 percent passing the No. 200 standard sieve on each individual test. Maximum particle size shall be 2 inches. Soil Type 2A shall have a liquid limit of 75 or less and a plasticity index between 8 and 55.

Type 2A soils shall be lime stabilized.

2.2.5 Type 3 Fill

Type 3 fill shall be obtained from the borrow sites provided by the Agency or other required project excavations and is suitable for use within the seepage berms or as general site fill beyond the limits of the levee. The random fill shall consist of suitable material with a maximum particle size less than 2 inches.

2.2.6 Topsoil

Levee embankment and seepage berm surfaces shall be dressed with topsoil obtained from the stripping operations beneath the levee embankment, seepage berm, and unsuitable organics material obtained from specified project excavations as discussed in Section 02222. Topsoil shall be uniformly blended during placement on the final embankment slope.

2.3 ROCK SLOPE PROTECTION

See Section 02380 STONE, CHANNEL, SHORELINE/COASTAL PROTECTION FOR STRUCTURES

Graded Stone 'C'
3/4-inch crushed rock filter
Clean rock fill

PART 3 EXECUTION

3.1 TOLERANCES

All embankments and backfills shall be constructed to the grades, lines, and cross-sections shown on the Plans. The levee side slopes shall have a tolerance of 0 to 4 inches for final dressing prior to placement of